

REMARKS

Claim Rejections - 35 USC § 103

Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (6,220,925). The Examiner states that while the reference does not aim to solve the same problem as the instant invention, it clearly teaches the use of solvents meeting the limitations of the instant claims, and that in the examples there are exemplified layers such as the first layer in column 72, which when calculated, falls within the scope of the instant claim limitations for the weight ratio. This rejection is respectfully traversed.

The present invention describes an improved method for making direct dispersions of photographic useful materials (PUMs) for incorporation into silver halide photographic elements. In particular, the present invention teaches the use of low levels (i.e., weight ratio relative to the amount of PUMs does not exceed 0.25) of specified organic solvents (i.e., those having a boiling point of at least 150C, a molecular weight less than or equal to 300, and a solvatochromic parameter β value greater than or equal to 0.50) specifically in a direct dispersion making process. As employed in the photographic art, "direct" dispersion making process are distinguished from other dispersion making processes by the feature that the PUM is homogenized or dispersed into an aqueous solution in the substantial absence of auxiliary solvent (see, e.g., page 2, lines 19-21). While this requirement for a direct dispersion making process as originally claimed is believed to be clear based on such description, claim 1 has been amended to make such requirement explicit, as the Examiner has apparently not considered such requirement in the asserted rejection. As explained at page 2, lines 19-21 and 28-31, in combination with page 1, lines 26-29, the substantial absence of auxiliary solvent in the claimed process means that volatile or water soluble auxiliary solvents are not present beyond trace or impurity levels, so that no volatile or water-soluble solvent removal step is required in the dispersion making process.

As demonstrated in the examples, the specific solvents required in accordance with the claimed invention have been found to be particularly advantaged over other organic solvents for their ability to reduce to oil phase solution at temperatures used in the direct dispersion process. In particular, with the enhanced solubility characteristics that they provide, a much wider variety of high melting PUM's become amenable to the direct dispersion making process.

They also enable direct dispersions to be prepared at reduced permanent solvent loads to facilitate thinner coated layers and reduced material (solvent and gelatin) laydowns, which lowers manufacturing cost. They also allow direct dispersion oil phases to be prepared at lower temperatures to avoid coupler decomposition problems, which may be commonly encountered with the direct process.

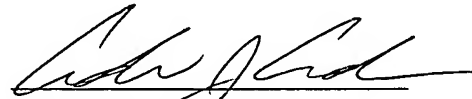
Saito clearly fails to teach of the particular combination of requirements of the presently claimed invention. Specifically, while Saito et al teaches the use of a combination of pyrrolotriazole couplers and non-color forming cyclic imide compound with a diffusion-resistant group and a wide variety of possible solvents, there is no specific teaching or suggestion of the use of solvents meeting the requirements of the present invention at the claimed solvent to photographically useful material weight ratio in a direct dispersion making process. The Examiner's specific reference to the first layer in column 72 of Saito does not provide such teaching. Initially note that such layer does not disclose a composition which would result from the present claimed invention (the only solvents employed in such layer (S-1 and S-5) have molecular weights above 300, and may be distinguished from the claim requirements on this point alone). Further, there is in any event no teaching of making such layer from a direct dispersion made in accordance with the present claimed invention. To the contrary, it is stated at col. 68, lines 59-61 that the coating solutions for the first layer were prepared in a manner similar to the coating solution for the fifth layer, and at col. 68, lines 26-33 it is explained that the coating solution for the fifth layer was prepared employing high levels of ethyl acetate, a conventional volatile auxiliary solvent (BP = 77C) employed in evaporative dispersion making processes. Thus, a prima facie case of obviousness based on such example has clearly not been established, and rejection of the present claims as being obvious over Saito based on such example represents clear error.

Further, as noted, Saito is directed towards solving a different problem than that of the present invention, and there is accordingly no teaching or suggestion that would lead one skilled in the art to the present invention. There is no mention of the desire to minimize solvent levels with direct dispersions, and no teaching of any combination of solvent parameters that would facilitate solvent minimization in direct dispersions. Most of the phosphates and amides listed and referenced by the Examiner are high MW solvents, which are outside the scope of

the present invention. Further, as noted above this reference in any event teaches the use low boiling (50 – 160C) auxiliary solvents in dispersion preparation, contrary to the direct dispersion teachings of the present invention. Clearly, such reference does not establish any prima facie case of obviousness with respect to the present claimed invention, and allowance of the present claims over such reference is respectfully urged.

In view of the foregoing amendments and remarks, reconsideration of this patent application is respectfully requested. A prompt and favorable action by the Examiner is earnestly solicited. Should the Examiner believe any remaining issues may be resolved via a telephone interview, the Examiner is encouraged to contact Applicants' representative at the number below to discuss such issues.

Respectfully submitted,



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If the Examiner is unable to reach the Applicant(s) Attorney at the telephone number provided, the Examiner is requested to communicate with Eastman Kodak Company Patent Operations at (585) 477-4656.